

WHAT IS CLAIMED IS:

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72+
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see 523/124+
1. A solid polymer film comprising a polymer comprising
- a) 2 to 60 mole percent of protonated amine monomer units, wherein said protonation is formed by a fixed acid; and
- b) 40 to 98 mole percent of hydrophobic monomer units.
2. The polymer film of claim 1 wherein said hydrophobe monomer units comprise non-protonated amine monomer units.
3. The polymer film of claim 1 comprising 5 to 40 mole percent of said protonated amine monomer units.
4. The polymer film of claim 1 comprising from 5 to 100 mole percent of at least one amine monomer, including both protonated and non-protonated amines.
5. The polymer film of claim 4 comprising from 10 to 40 mole percent of at least one amine monomer, including both protonated and non-protonated amines.
6. The polymer film of claim 5 comprising from 10 to 20 mole percent of at least one amine monomer, including both protonated and non-protonated amines.
7. The polymer film of claim 1 wherein said fixed acid comprises at least one monofunctional acid.
8. The polymer film of claim 1 wherein said hydrophobic monomer comprises meth)acrylates, maleates, (meth)acrylamides, vinyl esters, itaconates, styrenics, unsaturated hydrocarbons and acrylonitrile, nitrogen functional monomers, vinyl esters, alcohol functional monomers, unsaturated hydrocarbons, and C₈-C₂₂ alkoxylated (meth)acrylates.
9. The polymer film of claim 8 wherein said hydrophobic monomers comprise methyl methacrylate, ethyl acrylate, and butyl acrylate.
10. The polymer film of claim 1 comprising from 60 to 98 mole percent of said hydrophobic monomer units.
11. An encapsulated or coated material comprising a material having coated or encapsulated thereon the polymer film of claim 1.
12. The encapsulated or coated material of claim 11 wherein said encapsulated material is selected from the group consisting of one or more rinse aids, fragrances, anti-wrinkling aids, one or more surfactants, builders, ion exchangers, alkalis, anticorrosion materials, antiredeposition materials, optical brighteners, fragrances, dyes, chelating agents, enzymes, whiteners, brighteners,

antistatic agents, sudsing control agents, solvents, hydrotropes, bleaching agents, perfumes, bleach precursors, water, buffering agents, soil removal agents, soil release agents, softening agents, opacifiers, inert diluents, buffering agents, corrosion inhibitors, graying inhibitors, and stabilizers.

5 13. The encapsulated material of claim 11 wherein said encapsulated material is a solid having adsorbed thereon at least one active ingredient.

14. The encapsulated material of claim 13 wherein said solid comprises zeolite, porous microbeads, or a starch.

10 15. The encapsulated material of claim 11, wherein the weight ratio of said polymer film to said material is from 5:95 to 95:5.

16. A formulation comprising the encapsulated or coated material of claim 11.

17. The formulation of claim 16 comprising a laundry detergent, a dishwashing detergent, a personal care product, a sachet, or a pill or capsule. 510/ 424

15 18. The formulation of claim 16 wherein said formulation is a liquid comprising the encapsulated or coated material. 428/402.22; 402

19. The formulation of claim 18, wherein said formulation is a liquid laundry detergent, a liquid dishwasher detergent, a sachet, or a personal care product. 510/ 424

20. The formulation of claim 16 wherein said formulation is a solid comprising the encapsulated or coated material. 428/402; 402.24

20 21. A process for the controlled release of a material into an aqueous environment comprising:

a) coating or encapsulating said material with the polymer film of claim 1;

b) placing said coated/encapsulated material into an aqueous environment under which said polymer film is insoluble; and

c) lowering the pH, ionic concentration, surfactant level, or a combination thereof, to solubilize the polymer film and release the material into the aqueous environment.

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